

**Prepared Remarks of Chairman Julius Genachowski
Federal Communications Commission**

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Thank you, Gary Shapiro, for that introduction.

This is a big week for Gary. He has a new book out. "The Comeback: How American Innovation Will Restore the American Dream." It was released as an eBook yesterday and hits bookstores next Tuesday -- making this year's CES one of the most elaborate book-launch parties in American history.

Gary's doing a great job as head of CEA. I don't just say that because Gary's our host. I say it because his book praises the FCC's National Broadband Plan and our recommendations on spectrum.

Speaking of spectrum -- well, that's what I'd like to do today -- because what's happening here at CES so strongly illustrates both the immense opportunity and the critical challenge around this vital public resource.

As evidenced by the trade show floor, the consumer electronics industry is going wireless, and the future success of this industry *and* our innovation future depends on whether our government acts quickly to unleash more spectrum -- the oxygen that sustains our mobile devices.

We're in the early stages of a mobile revolution that is sparking an explosion in wireless traffic. Without action, demand for spectrum will soon outstrip supply.

To seize the opportunities of our mobile future, we need to tackle the threats to our invisible infrastructure. We need to free up more spectrum.

If we do, we can drive billions of dollars in new private investment, fueling world-leading innovations, creating millions of new jobs, and enabling endless new products and services that will help improve our economy and the lives of all Americans.

If we don't tackle the spectrum crunch now, network congestion will grow, and consumer frustration will grow with it. We'll put our country's economic competitiveness at risk, and squander the opportunity to lead the world in mobile.

That's why unleashing spectrum to support mobile innovation is at the top of the FCC's 2011 agenda.

Voluntary incentive auctions are an essential tool to unleash spectrum, and a vital part of seizing the opportunities of mobile. It's a non-partisan issue with bipartisan support.

I applaud CEA for its strong work to make incentive auctions a reality. And I'm pleased to be here at CES, with so many people who live and breathe the opportunities of technology, to talk about the importance of fighting for our mobile future.

You can't miss seeing our mobile future at CES, with breakthrough devices everywhere you look.

4G devices, for example, delivering a high-speed Internet experience comparable to what many enjoy on desktops. I applaud the companies whose billions of dollars of 4G investments will soon bring a tidal wave of new mobile innovations, from entertainment, to two-way video, to telemedicine and more.

Tablets are here at CES, another breakthrough device. Consider this: Last year at this time, there was no real commercial market for tablets. For this coming year, Gartner is projecting global sales of 55 million tablets.

On the floor you can see home entertainment manufacturers breaking new ground with Internet connectivity for video and games, increasingly including wireless connectivity.

Machine-to-machine wireless technologies are poised to take off. The Internet of Things will have a transformational impact in many areas of our economy. Internet-connected sensors are moving into appliances and cars, potentially saving energy; and into health-related devices, potentially saving lives.

EBooks are here at CES, and I'm hopeful they'll be moving into schools and help transform education for the better. A survey the FCC released yesterday found that most schools plan to increase the use of digital textbooks in the next three years.

Digital textbooks can expand opportunity for kids everywhere. Let's work together to make the U.S. the first country in the world to move from paper to digital textbooks.

Mobile broadband has created a tremendous new platform for innovation. All of the wireless-related devices I've mentioned are fueled by software and applications. At the time of 2008 CES, the first app store hadn't yet opened. In 2009, Americans downloaded 300 million apps to mobile devices. Last year, the number was 5 billion.

The new and growing "apps economy" has tens of thousands of developers and companies, including tons of startups attracting significant private investment and creating new jobs. It's vital that this innovation and investment around mobile broadband continue to thrive and grow.

Mobile also offers a powerful new platform for commerce. Look at eBay's iPhone app. It's been downloaded 12 million times, and smartphone sales by eBay sellers will top \$1.5 billion in 2010. These figures, and similar numbers from Amazon, Google and others powering small-

business commerce, includes both pure Internet businesses, as well as main street small businesses expanding their sales and growing their businesses online.

Everywhere you look, mobile is becoming a staple of the workplace, increasing productivity and contributing to our economy. From managing crops on a farm to managing inventory at Best Buy, mobile broadband is increasing productivity and contributing to our economy.

Thanks to Skype, Facebook, Twitter and many others, mobile has become an incredible platform for connecting friends and families, kids on one end of the country to grandparents on the other.

Mobile broadband can empower people not only in 21st century economies, but can promote 21st century democracy. We've seen this around the world.

None of what I've described so far -- and what we see on the CES floor -- could happen without ever more-powerful microchips and electronics.

We see this at the FCC's Labs, where we review and approve spectrum-emitting devices ranging from smartphones to mobile health devices. These devices have at least one wireless transmitter -- enabling connection to, for example, 3G or 4G networks, or Wi-Fi, Bluetooth, or GPS.

Earlier today, we released our first FCC Labs Report on Wireless Trends. It showed that at the beginning of 2008, only 7 percent of approved mobile wireless devices contained 3 or more wireless transmitters. Now it's almost 50 percent. A 700% increase in just three years.

More confirming evidence that the mobile revolution is only gaining momentum.

A Morgan Stanley report summed it up: mobile broadband is being adopted far faster than any computing technology in history.

Here's the issue: All of these wireless innovations require an infrastructure -- an invisible infrastructure -- that's up to the task.

They require something we can't see: spectrum -- the signals that beam from towers and quietly carry digital information -- data, voice, video -- until they light up those devices we increasingly rely on.

Though we can't see it, spectrum is becoming increasingly essential to the daily lives of almost every American.

It's the backbone of a growing percentage of our economy and our lives.

And whether or not most Americans know the physics of spectrum, they know what it feels like to have a dropped call or a slow connection or cranky Wi-Fi.

And they know we need to lead the world in mobile, and not fall behind.

But while American ingenuity and our appetite for wireless technology is limitless, spectrum is not. And the coming spectrum crunch threatens American leadership in mobile and the benefits it can deliver to our country.

It's not just me saying this. Gary and CEA have been saying this for some time.

And during our work on the National Broadband Plan, the FCC received a strong letter from over a hundred companies -- including Amazon, Apple, AT&T, Cisco, Dell, Intel, Microsoft, Motorola, and Verizon -- leading entities representing many billions in investment and millions of American jobs. These companies were united in telling the FCC: "Without more spectrum, America's global leadership in innovation and technology is threatened."

The facts don't lie. The amount of spectrum available for mobile broadband represents about a threefold increase over where we were a few years ago. Sounds good, until you see the forecasts of a 35X increase in mobile broadband traffic over the next 5 years.

And I believe that projection is conservative, not fully accounting for the explosive growth of tablets and what I predict we'll see from 4G.

This coming spectrum crunch is not just an issue for the future of gadgets -- not that there's anything wrong with worrying about that -- it's a vital strategic issue for the future of our economy and job creation, our global competitiveness, and our quality of life.

Failure to tackle the spectrum challenge could have disastrous consequences.

If we don't act, frustrated consumers will be forced to choose between lousy service and rising prices, driving down both the adoption and utility of mobile broadband in the United States.

If we don't act, we'll put our country's economic competitiveness at risk.

Make no mistake: we are in a global race for world leadership in mobile.

Other nations are not standing still. Countries in Europe and Asia are moving forward on freeing up spectrum and investing in mobile broadband. Some project Asia to have more 4G devices than the U.S. by 2014.

We have to move, and we have to move faster than our global competitors.

Otherwise, we'll read more stories like the one about Applied Materials, which moved its Chief Technology Officer and advanced solar R&D operations from Silicon Valley to Beijing. How many times does that have to happen before we declare a crisis?

To be clear, when it comes to mobile broadband, the U.S is off to a very strong start.

We completed our DTV transition before other countries, and are beginning to reap the benefits of our digital dividend. U.S. companies are ahead on 4G, having been leaders in the

development of the technology and having already invested many billions in next-generation networks. And again there's been tremendous U.S.-based innovation in mobile content, apps and services -- the envy of the world.

But a head start does not guarantee a win. Global leadership is not a given in the 21st century digital economy.

The challenge we face here in the U.S. is not just that demand has spiked and spectrum is finite, it's that our spectrum policies are outdated, reflecting the communication needs of the 20th century, not the 21st.

That's why, in 2011, a central priority at the FCC is unleashing spectrum to spur innovation, economic growth, and job creation.

In our National Broadband Plan and elsewhere, we've laid out a bold mobile innovation agenda, and we've already made significant progress on multiple fronts. It rests on four pillars:

One, we need to make more spectrum available for broadband. So we are eliminating unnecessary restrictions on use of spectrum. This has allowed us to recover 25 megahertz previously used for WCS -- wireless communications services -- and will make available 90 megahertz of mobile satellite spectrum so it can be used for terrestrial broadband -- all toward our goal for freeing up 500 megahertz of spectrum for broadband, almost double what is currently available.

We're also working closely with the Commerce Department and other government agencies to find ways to make more federal spectrum available for mobile broadband.

Two, we need to encourage more innovative and efficient uses of spectrum. We'll continue to encourage dynamic spectrum sharing and secondary markets for spectrum, as well as development and deployment of femtocells, smart antenna technology, and devices that can access unlicensed spectrum like Wi-Fi to off-load traffic from cellular networks.

We recently freed up "white spaces" spectrum in the television bands, the most significant amount of unlicensed spectrum made available by the FCC in 25 years -- something CEA has long advocated, and an important new platform for innovation. This robust spectrum will bring innovations like Super Wi-Fi -- faster and stronger than current Wi-Fi, and with greater coverage.

I'm encouraged by signs of innovation around unlicensed spectrum and Wi-Fi, including at companies like Microsoft, Google, Dell, Cablevision, Time Warner, and a bevy of smaller companies whose names aren't familiar to us yet such as Spectrum Bridge, Shared Spectrum and Adaptrum, that are all investing in developing technology and business models around unlicensed spectrum.

I hope to see companies large and small bring Super Wi-Fi and other products using this spectrum to next year's CES.

Third, we must empower consumers and entrepreneurs by driving widespread adoption of mobile broadband, and promoting competition, transparency and vibrant innovation on the mobile platform.

Recent studies show that mobile devices are helping increase Internet adoption among low-income and minority communities, and can help address longstanding challenges for people with disabilities. Over the holidays, I saw the story of a 5-year-old boy in North Carolina with a rare genetic disorder who can now communicate effectively for the first time thanks to a \$10 app on his new iPad. For all the reasons that broadband in general is important for jobs and businesses, and for education, energy and health care, mobile broadband has particular promise, and will be an important part of our work around broadband adoption and digital literacy.

Fourth, we need to spur the deployment of wireless infrastructure. At the FCC, we are removing barriers to the buildout of wireless infrastructure – for example, we established a shot-clock to speed the deployment of new cell towers. We’re looking to cut red tape and pursue all smart policies to speed network deployment and ensure investment dollars go to building and upgrading networks, not the inefficiencies of the process.

Our job at the FCC is to remove barriers and create a climate that catalyzes massive private investment, innovation, and job creation.

Let me conclude by emphasizing the importance of spectrum recovery and a breakthrough mobile policy idea: voluntary incentive auctions. By next year’s CES, I hope the FCC will be far along in implementing this initiative.

The core idea behind incentive auctions is to harness free-market forces to ensure that spectrum is put to its most valued uses.

We can’t create more spectrum, so we have to make sure it’s used efficiently.

The incentive auction proposal would unlock substantial value that’s now untapped because of outdated policies.

Under the proposal, which was developed in the National Broadband Plan, the FCC would auction spectrum for flexible wireless broadband, with the spectrum in the auction supplied on a voluntary basis by current licensees like TV broadcasters or mobile satellite operators, who would receive some portion of the proceeds of the auction.

It relies on market-based incentives -- so, “incentive auctions.”

In the case of TV broadcasters, under our plan, a broadcaster could choose to contribute the 6 MHz channel it is using, or continue to broadcast by sharing a channel with one or more stations, or simply not participate and continue to broadcast as they do today.

Keep in mind that, while about 300 MHz of prime spectrum is set aside for TV broadcasting across the country, the percentage of viewers who watch broadcasting over the air – that is, who

use that spectrum to watch TV instead of watching broadcast programming through cable or satellite – has declined from 100% to under 10%.

Since the DTV transition, some broadcasters are moving to make effective use of the capabilities of DTV spectrum, but others are not.

Voluntary incentive auctions would not preclude digital multicasting or mobile TV; they would simply bring in the discipline of the market.

Especially given the need for mobile broadband, how can we justify shielding broadcast spectrum from market forces?

Incentive auctions would be a big win for our country. Consumers, companies and our economy would benefit from freeing up spectrum for mobile broadband. Auctions of contiguous spectrum would unlock value and billions of dollars. And the current holders of spectrum that contribute to an auction can receive a capital infusion and stay in the video business.

As the economist Richard Thaler put it, “This proposal involves no magical thinking, just good common sense.”

In the global race for mobile leadership, there is no time for standing still.

At the FCC, we’ve already begun to pave the way for incentive auctions, moving to lift technical restrictions so prime bands of spectrum can be freed for flexible broadband use.

I’m looking forward to working with my FCC colleagues to continue to prepare for voluntary incentive auctions so that we can move quickly should Congress give us the authority to conduct them. Each of my fellow Commissioners has already contributed significantly to our work on spectrum.

The time is right for speedy action. Bipartisan bills were introduced last year in Congress. President Obama has endorsed this proposal.

And just this week, the Consumer Electronics Association, the Information Technology Industry Council, the Semiconductor Industry Association and the Telecommunication Industry Association wrote a joint-letter to Congressional leaders calling on Congress “to swiftly pass legislation allowing the FCC to conduct voluntary incentive auctions.”

These groups represent more than more than 2,000 companies with over \$1 trillion in revenue. They called incentive auctions “critical to furthering innovation and growing jobs in America.”

It’s time to take the necessary steps to ensure that spectrum will be the great enabler of mobile innovation in the 21st century, not a chokepoint.

As the greatest country in the world for innovation, entrepreneurship and free markets, and as the leader of the global economy in the 20th century, the U.S. has huge advantages in the race for

global economic leadership in the 21st century.

But we know that market leaders face real challenges when disruptive technologies develop -- what Clayton Christensen called the Innovators Dilemma.

Mobile broadband is a disruptive technology that creates challenges not only for American companies, but for American policy. We have to meet those challenges head on, and take the smart steps for our economic future.

I believe incentive auctions are a test of whether the U.S. can make the right strategic choices in a fast-moving and competitive global digital economy.

To the hundreds of companies and groups that have called for incentive auctions, I share your vision of what's necessary for U.S. leadership in mobile. I look forward to working together to fight for our future.

Thank you.